

### **Remarks**

Applicants respectfully request reconsideration of the rejection of claims 1-54 in view of the present rejection.

Claims 1-54 are pending in the present case and are rejected.

Claim 6 is cancelled.

Independent claims 1, 22, 36, and 47 are amended to state that at least a portion of the working gas flows turbulently with a Reynold number greater than 2000 through the channel which has surfaces used as the sputtering target. Claims 1, 22, 36, and 47 are further amended to replace the term “nozzle” with “manifold.” The Specification is replete with the use of the term “manifold.” (*see* for example, Specification, p. 7, ll. 30-31)

#### **1. Rejections Under 35 U.S.C. § 103(a)**

Claim 1-9, 11-15, 18-26, 29-34, 36-43, 45 and 46 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Stollenwerk et al. (U.S. Patent No. 6,150,030) (Stollenwerk) in view of Ando et al. (U.S. Patent No. 6,458,253).

Applicants have amended independent claims 1, 22, 36, and 47 state that the working gas flows turbulently with a Reynold number greater than 2000. Neither Stollenwerk et al. nor Ando et al. disclose flow through such a channel with a Reynolds number greater than 2000.

Accordingly, for at least these reasons, claims 1-9, 11-15, 18-26, 29-34, 36-43, 45 and 46 are patentable under 35 U.S.C. § 103(a) over Stollenwerk in view of Ando.

Claim 10 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Stollenwerk et al. in view of Ando et al. and further in view of U.S. Patent No. 5,810,982 to Sellers.

Claim 10 depends from independent claim 1 which is shown above to be allowable. Accordingly, claim 10 is patentable over Stollenwerk in view of Ando and further in view of Sellers.

Claim 17 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Stollenwerk et al. in view of Ando et al. and further in view of THIN FILM PROCESSES by Vossen et al. (Vossen).

Claim 17 depends from independent claim 1 which is shown above to be allowable. Accordingly, claim 10 is patentable over Stollenwerk in view of Ando and further in view of Vossen.

Claims 16 and 44 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Stollenwerk et al. in view of Ando et al. and further in view of Kadokura (U.S. Patent No. 6,156,172).

Claims 16 and 44 depend from independent claim 1 which is shown above to be allowable. Accordingly, claim 10 is patentable over Stollenwerk in view of Ando and further in view of Kadokura.

Claim 1-9, 11-15, 18-43 and 47-54 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,889,295 to Rennie et al. (Rennie) in view of U.S. Patent No. 6,150,030 to Stollenwerk et al. (Stollenwerk) and U.S. Patent No. 6,458,253 to Ando et al.

The deficiencies of the combination of Stollenwerk and Ando regarding the generation of turbulence and the flow with a Reynolds number greater than 2000 are set forth above. Rennie in no way remedies these deficiencies, and is merely utilized by the Examiner to provide a reference for forming Al-doped ZnO and AlN by sputtering.

Accordingly, for at least this reason, claim 1-9, 11-15, 18-43 and 47-54 are patentable under 35 U.S.C. § 103(a) over Rennie in view of Stollenwerk and Ando.

Claim 10 is rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,889,295 to Rennie et al. (Rennie) in view of U.S. Patent No. 6,150,030 to Stollenwerk et al. (Stollenwerk) and U.S. Patent No. 6,458,253 to Ando et al. as applied to claim 1 above, and further in view of U.S. Patent No. 5,810,982 to Sellers.

Claim 10 depends from independent claim 1 which is shown above to be allowable. Accordingly, claim 10 is patentable over Rennie in view of Stollenwerk, and Ando and further in view of Sellers.

Claim 17 is rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,889,295 to Rennie et al. (Rennie) in view of U.S. Patent No. 6,150,030 to Stollenwerk et al. (Stollenwerk) and U.S. Patent No. 6,458,253 to Ando et al. as applied to claims 1 and 13 above, and further in view of THIN FILM PROCESSES by Vossen et al. (Vossen).

Claim 17 depends from independent claim 1 which is shown above to be allowable. Accordingly, claim 17 is patentable over Rennie in view Stollenwerk and Ando, and further in view of Vossen.

Claims 16 and 44 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,889,295 to Rennie et al. (Rennie) in view of U.S. Patent No. 6,150,030 to Stollenwerk et al. (Stollenwerk) and U.S. Patent No. 6,458,253 to Ando et al. (Ando) as applied to claims 1, 13, 36 and 41 above, and further in view of Kadokura (U.S. Patent No. 6,156,172).

Claims 16 and 44 depend from independent claims 1 and 47 which are shown to be allowable. Accordingly, claims 16 and 44 are patentable over Rennie in view Stollenwerk and Ando and further in view of Kadokura.

### **Conclusion**

Applicants have made a genuine effort to respond to each of the Examiner's rejections in advancing the prosecution of this case. Applicants believe that all formal and substantive requirements for patentability have been met and that this case is in condition for allowance, which action is respectfully requested. If a telephone or video conference would help expedite allowance or resolve any additional questions, such a conference is invited at the Examiner's convenience.

Payment in the amount of \$225.00 is made herewith to cover the Petition for a two-month extension of time. Please charge any additional fees or credit any overpayments as a result of the filing of this paper to our Deposit Account No. 02-3978.

Respectfully submitted,  
**Alan E. Delahoy et al.**

By           /s James W. Proscia s/            
James W. Proscia  
Reg. No. 47,010  
Attorney/Agent for Applicant

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**BROOKS KUSHMAN P.C.**  
1000 Town Center, 22nd Floor  
Southfield, MI 48075-1238  
Phone: 248-358-4400  
Fax: 248-358-3351